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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/412,328	10/05/1999	YUICHI SATO	204552016500	9541

25227 7590 04/03/2003

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EXAMINER

WILLE, DOUGLAS A

ART UNIT PAPER NUMBER

2814

DATE MAILED: 04/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/412,328

Applicant(s)

SATO, YUICHI

Examiner

Douglas A Wille

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2,3,5-7 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,3,5-7,9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. Claims 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art and Hu et al.
2. With respect to claim 2, Applicant's admitted prior art, Figure 9, shows and SRAM comprised of CMOS devices. Hu et al. show a DTMOS device (see Figure 7 and column 1, line 8 et seq.) that has the n-well deeper than the p-well and that can be used in CMOS circuitry for the advantages shown (column 2, line 46). Hu et al. show that the p-well is in the n-well and is shallower and that a trench 38 is deeper than the shallow well and shallower than the deep well. It would have been obvious to modify the basic device to include the DTMOS device shown by Hu et al. for the advantages shown. Note that the gates of the devices are connected to a power supply and therefore, so are the channel forming regions.
3. With respect to claim 7, it would be obvious to use these transistors for any purpose.
4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art and Hu et al. and further in view of Tsui et al.
5. Tsui et al. show the use of dual thickness gate oxides with thinner gate oxides used for low voltage devices (column 1, line 14). Since DTMOS devices use lower voltages it would have been obvious to use thinner oxides for the lower voltage devices and to use normal gate oxides for other devices.
6. Claims 5, 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art and Hu et al. and further in view of Hodges et al.

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7. Hodges et al. shows the formation of peripheral circuits for a memory device that use MOS structures (see page 368 and 369) and it would be obvious to use the DTMOS devices for these structures for the advantages shown.

### *Response to Arguments*

8. Applicant's arguments filed 2/4/03 have been fully considered but they are not persuasive.

9. Comments directed to the amended claims are addressed in the rejection above.

10. With respect to claim 9, Applicant states that the prior art quoted does not show the use of the transistors but note that since the claims are drawn to a device the function carries no weight. Applicant also states that there is no motivation for combining the references but note that since the secondary reference shows an improvement of a device the improvement would be applicable to any device and the justification is to improve the function.

### *Conclusion*

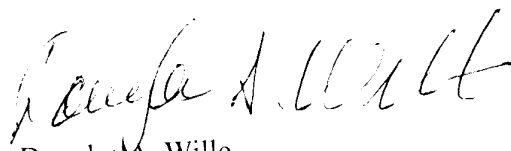
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas A Wille whose telephone number is (703) 308-4949. The examiner can normally be reached on M-F (6:15-3:45).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703) 308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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A handwritten signature in dark ink, appearing to read "Douglas A. Wille". The signature is written in a cursive, flowing style.

Douglas A. Wille  
Patent Examiner

April 1, 2003